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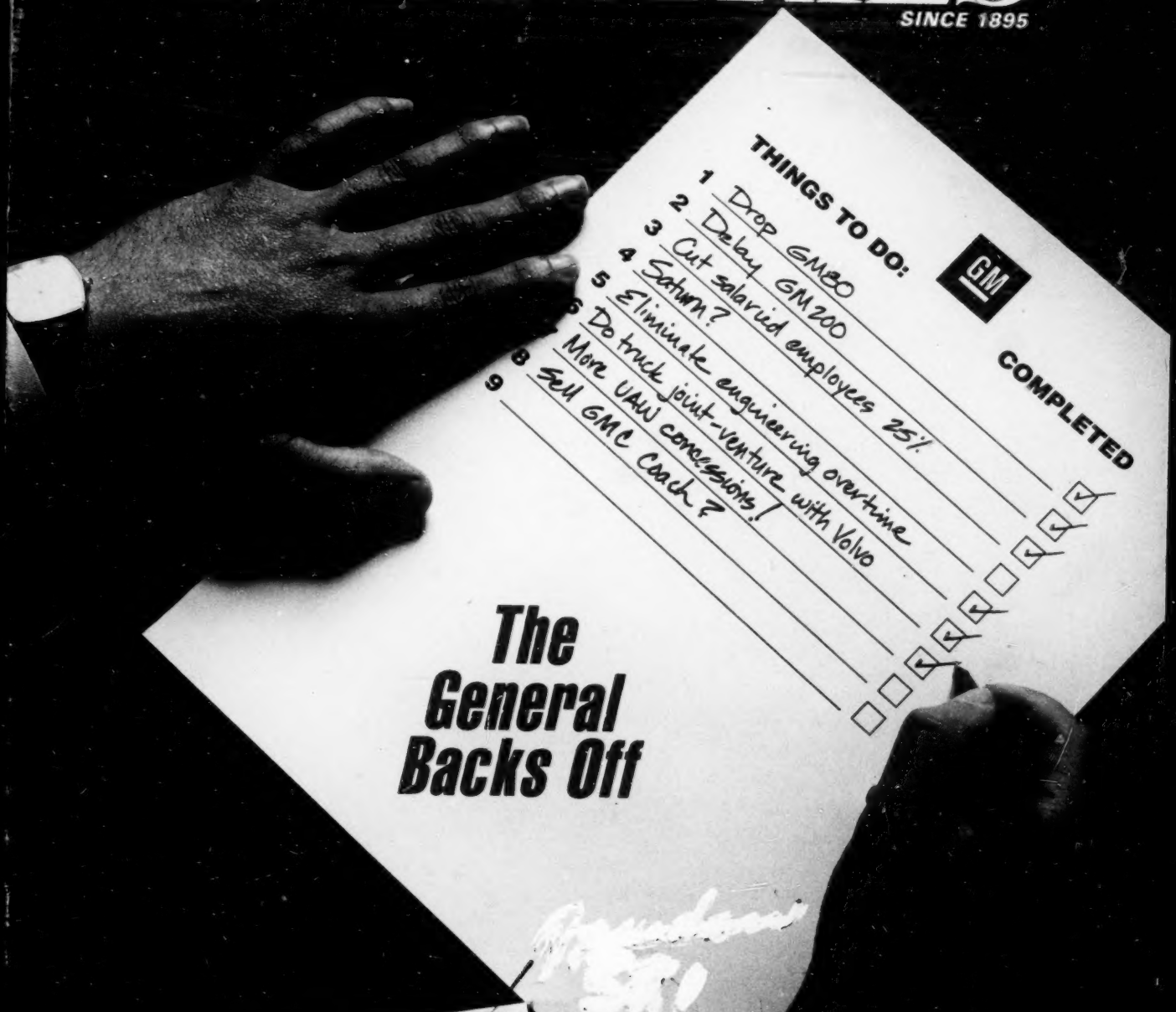

The General Backs Off

JOS MCNALLY
CONGRESSIONAL INFO SERV
SUITE 800
4520 EAST WEST HWY
BETHESDA MD 20814

Materials '87

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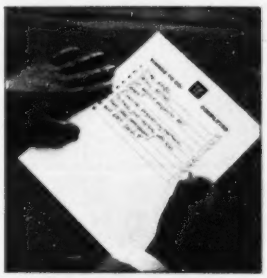

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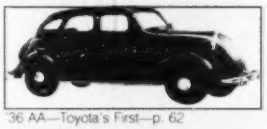

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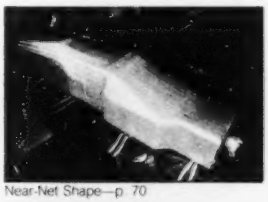

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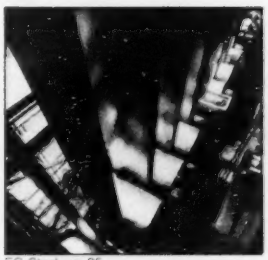

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ONE OF THE ABC PUBLISHING COMPANIES

AMC's Desperate Push For Cash

by Joseph M. Callahan

American Motors has embarked on a last-ditch effort to restructure its operations and provide AMC with $187.5 million in operating funds. That's how much the embattled company says it needs to continue operating until 1988, at which time it hopes to have enough salable new cars and Jeeps to get back into the black.

French Partner's Woes

Despite AMC's poor sales (down over 50%), the company has survived thanks to it's tie-up with French automaker Renault, which has supported it financially. Renault owns 46% of AMC.

But Renault, beset with its own sales decline and large losses in Europe, is clearly in no position to continue to shore up AMC's sagging fortunes.

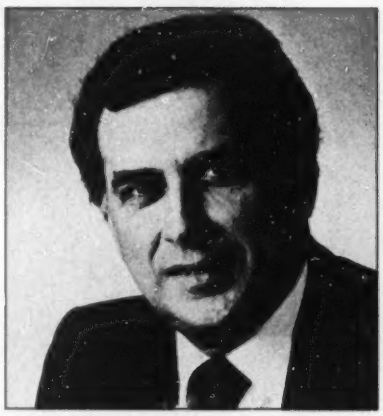
The first step in AMC's cash generating plan involved AMC stockholders approving the issuance of a new preferred stock. The stock was created after Renault agreed to convert the large debt AMC owes it, and a considerable portfolio of preferred stock, to "junior bonds" which get dividends after everyone else.

Buying Renault Parts

"We don't need these funds for our product program. Our product program through 1988 is fully funded," says AMC president Joseph E. Cappy. "What we need this money for is just to take care of the cyclical nature in the auto business. If suppliers look at our balance sheet and see a 2-to-1 debt to equity ratio, instead of a 12-to-1 ratio, they'll be more willing to give us better prices because they won't be afraid then to make the investments required."

Although Renault definitely will not supply AMC any more funds, Cappy read a letter from Renault chairman Georges Besse stating he fully supported AMC. AMC will buy up to $1.7 billion in parts from Renault in 1989 if its restructuring plan pays off.

Cappy also denied that AMC and



AMC chief Joseph Cappy: Renault sends its regards.

Renault were looking for a merger with Chrysler Corp. or anyone else. Rumors of Chrysler buying AMC's Jeep operations and its new Bramalea assembly plant have been flying around Detroit recently.

Cappy said he hoped to finalize the deal shortly by which Chrysler Corp.'s M-body cars will be assembled at the AMC plant in Kenosha, adding that this will help AMC lower its breakeven point. Production will begin next February.

China Bucks

Questioned about AMC's troubled Jeep plant in Toledo, OH, he said a decision about continuing Jeep production in Toledo or elsewhere will probably be made later this year or in early 1987.

Cappy also reported that the Chinese Government has temporarily begun paying AMC hard currency for the Cherokees it has been buying and production of the vehicles has resumed at the Beijing Auto Works in that country. However, AMC must begin sourcing more Cherokee parts in China and exports of the vehicles must start this year.

For the last five years AMC has been saying that prosperity was just around the corner.

This time, the company won't have a second chance to make good on its promise. AT

Prophet Loss Dept.

If everyone sells as many cars in 1987 as they claim, its going to be one sizzling year. In fact, it'll beat out the best sales year ever, when 11,446,000 cars were sold in 1973. Praise the cracles and pass those bonuses!

Company	'87 Sales Projection
Chevrolet	1,816,000
Ford	1,357,000
Chrysler	1,140,000 (est.)
Oldsmobile	1,063,000
Pontiac	910,000
Buick	850,000
Honda	750,000 (est.)
Lincoln/Merc	700,000
Toyota	680,000
Nissan	620,000 (est.)
Cadillac	312,000
Volkswagen	260,000 (est.)
Mazda	220,000 (est.)
Hyundai	200,000
Subaru	200,000
Volvo	120,000 (est.)
Mercedes-Benz	95,000 (est.)
BMW	95,000 (est.)
Audi	65,000 (est.)
Yugo	63,000 (est.)
AMC	60,000 (est.)
Saab	50,000
Mitsubishi	50,000 (est.)
Isuzu	33,000 (est.)
Porsche	29,500 (est.)
Jaguar	24,000 (est.)
Peugeot	20,000 (est.)
Total	**11,782,500**

(est.)—Projections are based on recent performance and/or seat of the pants prognostication by auto company spokesmen.

RUST NEVER SLEEPS: DETROIT EMBRACES EG STEEL

American steel fires up five new electrogalvanized steel lines, fueling Detroit's drive for a 10-year rust protection standard.

by Bryan Berry

Give us more electrogalvanized steel! Detroit has been telling American steelmakers for the past ten years. After all, that's how long Japanese steelmakers have provided the coating to Japanese automakers for many outer panels. But until this year, the only American mill making the 72-in. wide (*1828 mm*) electrogalvanized (EG) steel suitable for most outer panels was USX Corp.'s (formerly US Steel) Gary, IN line.

That's all changed now. As of early this summer, five new American EG lines began shipping coated steel to Detroit. At full speed, they'll produce more than two million tons (*1.8 billion kg*) a year.

The new EG steels will give automakers a major boost in their drive to guarantee vehicles against ten years of rust-through corrosion and five years of cosmetic corrosion.

What's so special about electrogalvanized steel? The process electrolytically deposits rust-fighting zinc, iron, or nickel alloys on steel at much lower temperatures than the hot-dip galvanizing coating.

Electrogalvanizing is done at 140°F (*60°C*) compared with hot-dipping's 850°F (*454°C*). The high heat of hot-dipping tends to alter the steel and the coating varies in thickness.

Variation in coating thickness is also a problem with Zincrometal, the other coated steel used for many outer body panels. Zincrometal uses a zinc-rich paint over the steel.

Electrogalvanizing, however, doesn't alter the steel and has a much more uniform coating than hot-dipped or Zincrometal steel. The steel can be stamped, welded, and

Five new EG lines have recently begun to supply Detroit; output will hit two million tons at full production. Tower rolls shown store the steel so processing can be continuous.

painted much more consistently.

Electrogalvanizing is also much more flexible than the other processes. In a few hours coating thicknesses and alloys can be changed in the middle of a production run.

Detroit's Big Deal

General Motors will phase in EG steel slowly, buying about 390,000 tons (*320,833 t*) this year. That's 6% of the 6.5 million tons (*5.9 million t*) of total steel it plans to buy this year.

Last year GM bought the same total tonnage, including 130,000 tons (*117,910 t*) of EG. The automaker currently uses EG steel from USX's Gary line for the hoods and fenders on its Oldsmobile and Cadillac C-cars (Olds Ninety-Eight, Cadillac deVille); and EG from Nippon Kokan for the same parts on its Buick C-cars (Electra).

The first GM car line slated to make extensive use of the new EG lines is the E/K series (Buick Riviera, Olds Toronado, Cadillac Seville/Eldorado) built at the new Detroit/Hamtramck plant. The E/K cars presently use Armco's Ultrasmooth hot-dip galvanized steel for most exterior panels. Some time in 1987 GM will begin replacing Ultrasmooth panels with EG steel.

Electrogalvanized use at GM will really jump when the company begins building its compact Corsica/Beretta L-bodies (GM25) at several Chevrolet-Pontiac-Canada (CPC) plants in 1987. Also slated for EG steel are the Chevrolet Astro minivan; the '87 Buick Reatta (GM33) two-seater; and the intermediate W-body (GM10).

The No. 1 automaker has signed long-term contracts (into the '90s) to buy almost all of its EG steel from the Armco line at Middletown, OH; the LTV/Sumitomo line at Cleveland; and the Bethlehem/Inland/Pre Finish Metals line at Walbridge, OH near Toledo.

GM has assigned LTV to supply all the cold-rolled steel for its Buick City plant; LTV is likely to supply all the EG there, too. More than half of the EG steel from both LTV and Armco will go to GM.

The Five New EG Lines

Company	Location	Max. capacity (tons/year)
USX/Double Eagle	Dearborn, MI	700,000
LTV/ Sumitomo	Cleveland, OH	400,000
National	Ecorse, MI	400,000
Bethlehem/ Inland/Pre-Finish Metals	Walbridge, OH	400,000
Armco	Middletown, OH	400,000

The New EG Steel!

Automaker	EG Suppliers/Type
GM	Armco, Bethlehem, Inland, LTV/Two-side pure zinc.
Ford	Primarily USX and Rouge, some from the other four new EG lines/Mainly one-side pure zinc
Chrysler	USX, National/Two-side iron-zinc.
Honda Marysville	Probably Bethlehem, Inland, Armco/Probably one-side pure zinc.
Nissan Smyrna	Nippon, Kawasaki, Nippon Kokan/Zinc-rich paint over nickel-zinc on one side.
NUMMI	Nippon/Two layers of iron-zinc on two sides.
Mazda Flat Rock	Nippon, Kawasaki, Sumitomo/Two-side zinc-nickel.

Chrysler will convert most of its exterior panels from hot-dip galvanized to EG during the 1988 model year. The automaker first will convert its hoods, and then rear decks, to EG. Ford predicts that it will use 750,000 tons (*680,250 t*) of EG in 1988.

General Motors and Ford initially will use almost all pure-zinc coatings, while Chrysler will use iron-zinc. That's because the Big 2 generally have shorter electrocoat (E-coat) tanks in which they bathe their vehicles in Uniprime and other primers prior to painting.

The GM and Ford vehicles are electrocoated for two minutes; Chrysler has opted for a three minute bath. The Big Two's quicker times mean higher voltages (about 350V at GM) than Chrysler uses, which is the reason they use pure-zinc.

GM's 350 volt bath would cause pits and craters in iron-zinc steel. Chrysler claims its lower voltage dip doesn't degrade iron-zinc.

Chrysler has been using three-minute dwell times to E-coat hot-dip iron-zinc-coated minivans at its Windsor, Ont., plant since fall 1983. The automaker has had no problems with cratering, said Joseph H. King, Chrysler's manager of materials protection and joining.

The iron-zinc allow Chrysler to use a lighter coating weight than GM for lower cost, less welding power and fewer stamping problems.

The five new EG lines start out with a broad range of prices: National's are the lowest, at $680-700/ton; Double Eagle (the venture of USX and Rouge Steel), in the middle at about $720/ton; while some of the

(Continued on p. 88)